

ABSTRACT OF DISCLOSURE

The present invention relates to a facilitated transport membrane for separation of alkene hydrocarbons from hydrocarbon mixtures, comprising a porous supported membrane and a transition metal salt-polymer membrane consisting of a transition metal and a polymer, in which the transition metal salt does not chemically react with the polymer but physically dispersed within the polymer which has no functional group capable of forming a complex with the transition metal salt. The facilitated transport membrane according to the present invention is prepared by forming a solid transition metal salt-polymer membrane consisting of a transition metal salt and a polymer capable of dispersing the transition metal salt on the molecular scale; and coating the solid membrane on a porous supported membrane with good permeance and superior mechanical strength. In particular, the polymer matrix allows the transition metal salt to be well dissociated because it has no functional group capable of forming a complex with a transition metal. The facilitated transport membrane is characterized in that its permeance and selectivity to alkene hydrocarbons is high and in that the transition metal ion in the transition metal salt-polymer membrane maintains its activity as a carrier for alkene hydrocarbons even under long-term dry operating conditions.